

BIOLOGY (Subjective) GROUP - II

Time: 02:40 Hours

Marks: 68

SECTION – I**2. Write short answers to any EIGHT parts.**

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- (i) What is shivering thermogenesis?
- (ii) Sketch urea cycle.
- (iii) What are malpighian tubules?
- (iv) What is nutation?
- (v) Why are lower two pairs of ribs called "floating ribs"?
- (vi) What are the causes of Rickets disease?
- (vii) Sexual reproduction in plants is called diplohaplontic life cycle. Why?
- (viii) How are identical twins produced?
- (ix) Differentiate prairies and savanna.
- (x) What is littoral zone of lake?
- (xi) What are non-renewable resources?
- (xii) How does algal bloom cause oxygen depletion in aquatic ecosystem?

3. Write short answers to any EIGHT parts.

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- (i) Differentiate between circannual rhythms and diurnal rhythms.
- (ii) What is habituation? Give an example.
- (iii) What is synapse?
- (iv) How homozygous or heterozygous nature of a genotype can be checked? Give an example.
- (v) Which parents have MN blood group children? Discuss it.
- (vi) How the alleles of a gene pair can be separated?
- (vii) How restriction enzymes cut the DNA at specific sites? Comment on it.
- (viii) How you facilitate the insertion of foreign DNA into a vector? Comment on it.
- (ix) Why you need taq polymerase in PCR?
- (x) Differentiate between population and community by giving example.
- (xi) What is predation? Give its significance.
- (xii) Define the term mutualism by giving at least one example.

4. Write short answers to any SIX parts.

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- (i) Differentiate between Morulla and Blastula.
- (ii) Write two causes of aging.
- (iii) Why stop codon are non-sense codon? Also write its two names.
- (iv) What is point mutation? Give one example.
- (v) Define phosphodiester linkage. Also draw it.
- (vi) Write two importance of mitosis.
- (vii) What changes occur during G_1 of interphase of cell cycle?
- (viii) Define biogeography. Give example.
- (ix) Define Hardy-Weinberg Theorem.

SECTION – II Attempt any THREE questions. Each question carries 08 marks.

5. (a) Discuss the nature of excretory products in relation to the habitat of animals.
- (b) What is Cancer? Describe the types and causes of Cancer.

6. (a) Explain directional movements of plants due to external stimuli.
- (b) Define ecosystem. Describe its components in detail.

7. (a) Explain the structure and functions of thyroid gland.
- (b) Write a note on endangered species in detail.

8. (a) Explain different physiological and structural changes occurring during the process of birth in human females.
- (b) Define probability. Derive 9 : 3 : 3 : 1 ratio of independent assortment through product rule.

9. (a) What is the importance of the nucleus in the development? Elaborate your answer with the help of diagram.
- (b) What do you know about tissue culture technology?